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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,442

Applicant(s)

TARENSKEEN ET AL.

Examiner

JEAN B. FLEURANTIN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 11 March 2005 has been entered.

2. Claims 1-31 remain pending for examination.

Response to Arguments

3. Applicant's arguments filed 11/03/05 with respect to claims 1-31 have been fully considered but, but have been found persuasive only to the extent that the prior art of record does not specifically disclose the limitations "execution of database queries." And "the migration of data from one system to another in "data in target table" is made "available for execution of database queries against that data." However, Hamada discloses such limitations.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U. S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,651,074 issued to Taylor ("hereinafter Taylor") in view of U.S. Patent 6,353,452 issued to Hamada et al., ("hereinafter Hamada").

As per claim 1, Taylor '074 discloses a target database system comprising:

"a storage subsystem (figure 2) to store a plurality of temporary tables" (figure 1, elements 34, 36);

"an access management subsystem (figure 2, elements 22 and 30) adapted to receive, in parallel" (see figure 2), "groups of data from a source database system (storage 14 of figure 2) for storage in corresponding temporary tables" (figure 2, elements 34, 36);

"the access management subsystem (figure 2, elements 22 and 30) adapted to further insert data from the temporary tables (figure 2, elements 34, 36) "into the target table" (figure 2, element 18).

Applicant is also referred to column 4, line 49 to column 5, line 10. Taylor fails to explicitly disclose "make data in the target table available for execution of database queries against that data." On the other hand, Hamada discloses an analogous system

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that provides a database query statement including joining of a plurality of tables can be prepared efficiently without error. Hamada discloses the claimed features "make data in the target table available" (i.e., a target database table including a plurality of target data field; see col. 2, lines 54-56) "for execution of database queries against that data" (i.e., executes a database query statement obtained from the database retrieval statement; see col. 6, lines 52-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Taylor and Hamada, wherein the data retrieval comprises a condition setting part and a database query statement (see Hamada Fig. 2A) would have included data in the target table available for execution of database queries against that data. One having ordinary skill in the art would be motivated to make such a combination because it would provide a database query statement involving a joining of a plurality of tables to be prepared efficiently without error (see Hamada col. 1, lines 65-67).

As per claim 2, Taylor '074 discloses "wherein the access management system comprises plural access managers adapted to manage access of respective portions of the storage subsystem" (i.e., data availability has also been increased through the use of arrays of mirrored databases, either single or multi-threaded, for multiple simultaneous access capabilities; see col. 1, lines 31-33).

As per claim 3, Taylor `074 discloses, "wherein the temporary tables are defined according to definitions for a source table in the source system" (see figure 2, elements 34, 36).

As per claim 4, Taylor `074 discloses, "wherein the plural access managers are adapted to insert data from the temporary tables in parallel to the target table" (see figure 2, elements 34, 36 and 18).

As per claim 5, Taylor `074 discloses, "the storage subsystem to store the definitions for the source table copied from the source system" (i.e., a set of temporary data stores 34 built from raw storage resources 36, when a data store: reaches capacity the intelligent process 30 signals the backup system 12 to begin a backup of that data store; see col. 4, lines 54-57).

As per claim 6, Taylor `074 discloses, "wherein the plural access managers comprises access module processors, the storage subsystem divided into plural storage modules managed by respective access module processors" (see figure 2, elements 30 and 39).

As per claim 7, Taylor `074 discloses, "wherein the target table is distributed across the plural storage modules" (see figure 2, elements 18, 39 and 30).

As per claim 8, Taylor `074 does not explicitly specify the type of database used in their system such as the temporary tables are relational tables. However, Hamada discloses a relational database (see col. 1, lines 15-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Taylor and Hamada, wherein the tables are dropped in the database query statement (see Hamada Fig. 4) would have included use of a relational database. One having ordinary skill in the art would be motivated to make such a combination because it would provide a database query statement involving a joining of a plurality of tables to be prepared efficiently without error (see Hamada col. 1, lines 65-67).

As per claim 9, Taylor `074 discloses, "wherein the access management subsystem has a configuration different from a configuration of an access management system in the source system" (i.e., database export command of a DBMS 22 is piped into an intelligent pipe reading process 30 and distributed over a set of temporary data stores 34 built from raw storage resources 36; see col. 4, lines 52-55).

As per claim 10, Taylor `074 discloses a method of migrating data (see figure 2) to:

"archiving data from a source table in a source database system" (i.e., data storage system 14 of figure 2 being stored or archived);

"transferring groups of the archived data" (figure 2, element 38) in parallel (figure 2) to corresponding temporary tables (figure 2, elements 34, 36) in a target database system (figure 2, element 18);

"inserting data from the temporary tables" (figure 2, elements 34, 36) "into a target table in the target database system" (figure 2, element 18).

Applicant is also referred to column 4, line 49 to column 5, line 10. Taylor fails to explicitly disclose "make data in the target table available for execution of database queries against that data." On the other hand, Hamada discloses an analogous system that provides a database query statement including joining of a plurality of tables can be prepared efficiently without error. Hamada discloses the claimed features "make data in the target table available" (i.e., a target database table including a plurality of target data field; see col. 2, lines 54-56) "for execution of database queries against that data" (i.e., executes a database query statement obtained from the database retrieval statement; see col. 6, lines 52-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Taylor and Hamada, wherein the data retrieval comprises a condition setting part and a database query statement (see Hamada Fig. 2A) would have included data in the target table available for execution of database queries against that data. One having ordinary skill in the art would be motivated to make such a combination because it would provide a database query statement involving a joining of a plurality of tables to be prepared efficiently without error (see Hamada col. 1, lines 65-67).

As per claim 11, Taylor `074 discloses "wherein archiving the data comprises archiving the data using a plurality of concurrently active archive modules" (i.e., command executed by DBMS (22) in backup system 12, backup control process 39 works concurrently with DBMS (22), control 30 for determining when the data stream in data stores 34 is empty or full before beginning transferring of data into catalog 37 and tape device 18).

As per claim 12, Taylor `074 discloses "wherein transferring the groups of data comprises restoring the groups of data, in parallel, using a plurality of restore modules" (i.e., an operator executes the appropriate command to restore a database. The archive utility as figure 2, elements 22, 30, 34 and 36).

As per claim 13, Taylor `074 discloses the method "further comprising communicating the groups of data between respective pairs of archive modules and restore modules across a transfer medium" (i.e., an operator executes the appropriate command to restore a database. The archive utility as figure 2, elements 22, 30, 34 and 36).

As per claim 14, Taylor `074 discloses "wherein communication across the transfer medium comprises communicating across a pipe defined by an operating system in one of the source database system and the target database system" (i.e., data stream 38 from a database export command of a DBMS 22 is piped into an

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intelligent pipe reading process 30 and distributed over a set of temporary data stores 34 built from raw storage resources 36; see col. 4, lines 52-55; figure 2, elements 38, 30, 39 and 18).

As per claim 15, Taylor `074 discloses "wherein communication across the transfer medium comprises communicating through an intermediate storage system" (i.e., data stream 38 from a database export command of a DBMS 22 is piped into an intelligent pipe reading process 30 and distributed over a set of temporary data stores 34 built from raw storage resources 36; see col. 4, lines 52-55).

As per claim 16, Taylor `074 discloses the method "further comprising storing the source table across plural access manager (see figure 2, elements 34, 36), each access manager managing access to respectively portions of the source table" (i.e., database export command of a DBMS 22 is piped into an intelligent pipe reading process 30 and distributed over a set of temporary data stores 34 built from raw storage resources 36; see col. 4, lines 52-55).

As per claim 17, Taylor `074 discloses "wherein transferring groups of the data comprises transferring clusters of the data, each cluster of data comprising data associated with a respective set of plural access managers" (i.e., data availability has also been increased through the use of arrays of mirrored databases, either single or multi-threaded, for multiple simultaneous access capabilities; see col. 1, lines 31-33).

As per claim 18, Taylor `074 discloses the method "further comprising copying database definitions from the source database system to the target database system" (see figure 2, elements 34, 36).

As per claim 19, Taylor `074 discloses the method "further comprising creating temporary tables in the target database using the copied database definitions" (see figure 2, elements 34, 36).

As per claim 20, Taylor `074 illustrates only a single source of table or database. The Examiner notes that Taylor has done so for only illustration purposes. It would have been obvious to one of ordinary skill in the art to note that a storage system may include one or more databases or data tables or second source tables. Moreover, it would have been obvious to one of ordinary skill in the art to note that the storage system of Taylor may be partitioned into a plurality of second sources. Thus, the step or archiving data from a second source table would have been obvious to one of ordinary skill in the art at the time the invention was made in order provide storage and migration of very large data or database system, thus making the system versatile. The step of transferring data from a source table to a set of temporary table in a target database system has been discussed above in light of claim 10 above. Thus, transferring groups of the archived data from the second source table in parallel to corresponding second set of temporary tables in the target database system would have been obvious to one of ordinary skill in the art at the time of the invention since

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there would exist a plurality of secondary tables as the step of transferring would have likewise been executed or performed as noted above.

As per claim 21, Taylor `074 discloses the method "further comprising inserting data from the second set of temporary tables" (figure 2, elements 34, 36) "into a second target tale in the target database system" (figure 2, element 18).

Applicant is also referred to column 4, line 49 to column 5, line 10.

As per claim 22, Taylor `074 discloses "a method of migrating data form a first source table in a first database system to a second database system" (see figure 2) and column 4, line 49 to column 5, line 10, comprising:

"receiving groups of data (figure 2, element 38) from the source table (figure 2, element 14) from an intermediate medium into corresponding temporary tables (figure 2, elements 34, 36) in the second database system" (figure 2, element 18),

"defining the temporary tables according to definitions of the sources table" is not explicitly stated in Taylor. However, the temporary tables retaining the same names and format as the tables of the source tables is interpreted as the step of "defining the temporary tables according to definitions of the source table. It would have been obvious to one of ordinary skill in the art at the time the invention was made to define the temporary tables according to definitions of the source table in order to provide consistency between the source tables and the target table thereby preventing alteration of the tables.

"inserting rows of the temporary tables into a target table in the second database system" (see figure 2, element 18). It should be noted that a table comprises rows and columns.

Applicant is also referred to column 4, line 49 to column 5, lines 10. Taylor fails to explicitly disclose "making data in the target table available for execution of database queries against that data." On the other hand, Hamada discloses an analogous system that provides a database query statement including joining of a plurality of tables can be prepared efficiently without error. Hamada discloses the claimed features "making data in the target table available" (i.e., a target database table including a plurality of target data field; see col. 2, lines 54-56) "for execution of database queries against that data" (i.e., executes a database query statement obtained from the database retrieval statement; see col. 6, lines 52-54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Taylor and Hamada, wherein the data retrieval comprises a condition setting part and a database query statement (see Hamada Fig. 2A) would have included data in the target table available for execution of database queries against that data. One having ordinary skill in the art would be motivated to make such a combination because it would provide a database query statement involving a joining of a plurality of tables to be prepared efficiently without error (see Hamada col. 1, lines 65-67).

As per claim 23, Taylor `074 discloses "wherein receiving the data comprises data from the group in parallel into the corresponding temporary tables" (see figure 2, elements 34, 36 and 18).

As per claim 24, Taylor `074 discloses "wherein receiving the data from the intermediate medium comprises receiving the data over a data network" (see col. 2, lines 2-4).

As per claim 25, Taylor `074 discloses "wherein receiving the data from the intermediate medium (figure 2, elements 12) comprises receiving the data from an intermediate storage (figure 2, element 14).

As per claim 26, Taylor `074 discloses an article at least one storage medium containing instructions that when executed cause a target database (see figure 2) to:

"receive one or more queries to set up temporary tables in the target database system" as data storage system 14 of figure 2 being received data from the DBMS (22) of Host (10). It should be noted that data are comprised of queries.

"receive groups of the data from a source table in a source database into the temporary tables" (figure 2, elements 34, 36);

"inserting data from the temporary tables" (figure 2, elements 34, 36) "into a target table in the target database system" (figure 2, element 18).

Applicant is also referred to column 4, line 49 to column 5, line 10.

As per claim 27, Taylor `074 discloses, "wherein receiving the instructions when executed cause the target database system to create the temporary tables using definitions for the source table", (see figure 2, elements 34, 36).

As per claim 28, Taylor `074 does not explicitly specify the type of database used in their system such as the temporary tables are relational tables. However, Hamada discloses a relational database (see col. 1, lines 15-16). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Taylor and Hamada, wherein the tables are dropped in the database query statement (see Hamada Fig. 4) would incorporate the use to relational database. One having ordinary skill in the art would be motivated to make such a combination because it would provide a database query statement involving a joining of a plurality of tables to be prepared efficiently without error (see Hamada col. 1, lines 65-67).

As per claim 29, Taylor `074 discloses "wherein receiving the instructions when executed cause the target database system to receive the groups of data comprising clusters of data" as data availability has also been increased through the use of arrays of mirrored databases, either single or multi-threaded, for multiple simultaneous access capabilities, (see col. 1, lines 31-33).

As per claim 30, Taylor `074 discloses "wherein each cluster comprises data of plural access module processors in the source database system" (figure 2, elements 22 and 30).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 31, as understood, is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,651,074 issued to Taylor ("hereinafter Taylor `074").

As per claim 31, Taylor `074 discloses "an article comprising at least one storage medium containing instructions for migrating data from first source table in a first database system to a second database system, the instructions when executed causing the second database system" (see figure 2), to:

"receiving, in parallel (figure 2) groups of data from the source table (figure 2, element 14) from an intermediate medium into corresponding temporary tables (figure 2, elements 34, 36) in the second database system (figure 2, element 18)" ,

"defining the temporary tables according to definitions of the sources table" is not explicitly stated in Taylor. However, the temporary tables retaining the same names

and format as the tables of the source tables is interpreted as the step of "defining the temporary tables according to definitions of the source table. It would have been obvious to one of ordinary skill in the art at the time the invention was made to define the temporary tables according to definitions of the source table in order to provide consistency between the source tables and the target table thereby preventing alteration of the tables.

"inserting rows of the temporary tables, in parallel, into a target table in the second database system" (see figure 2, element 18). It should be noted that a table comprises rows and columns.

Applicant is also referred to column 4, line 49 to column 5, lines 10.

CONTACT INFORMATION

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is 571 – 272-4035. The examiner can normally be reached on 7:05 to 4:35.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571 – 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean Bolte Fleurantin

Patent Examiner

Technology Center 2100

May 27, 2005